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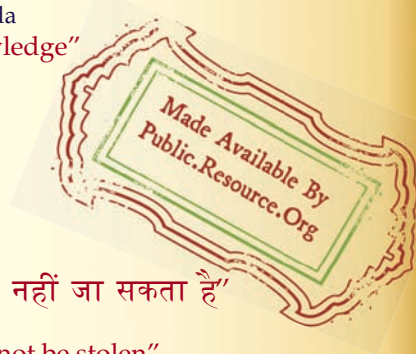
IS 10026-3-3 (1983): Insulating Varnishes Containing Solvents, Part 3: Specifications for Individual Materials, Section 3: Air Drying Varnishes with Temperature Index 130 [ETD 2: Solid Electrical Insulating Materials and Insulation Systems]



“ज्ञान से एक नये भारत का निर्माण”

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Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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IS : 10026 (Part 3/Sec 3) - 1983
(Superseding IS : 352 -1973 and IS : 8264 - 1976)
(Reaffirmed 1996)

Indian Standard

**SPECIFICATION FOR
INSULATING VARNISHES CONTAINING
SOLVENTS**

**PART 3 SPECIFICATIONS FOR INDIVIDUAL
MATERIALS**

**Section 3 Air Drying Varnishes with Temperature
Index 130**

(First Reprint JANUARY 1998)

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002



AMENDMENT NO. 1 JANUARY 1986

TO

IS:10026(Part 3/Sec 3)-1933 SPECIFICATION FOR
INSULATING VARNISHES CONTAINING SOLVENTS

PART 3 SPECIFICATIONS FOR INDIVIDUAL MATERIALS

Section 3 Air Drying Varnishes with
Temperature Index 130

[Page 5, Table 1, Sl No. (iii)] - Substitute
the following for the existing matter under respective
columns:

SL NO.	PROPERTY	TEST METHOD CLAUSE	REQUIREMENT	REMARKS
(1)	(2)	(3)	(4)	(5)
iii)	Non-volati- le matter	5 of IS:10026 (Part 2)- 1982‡	±2 percent of the nomi- nal value	Nominal value to be agreed between the purchaser and the supplier and shall not be below 40 percent

(ETDC 63)

Reprography Unit, ISI, New Delhi, India

IS : 10026 (Part 3 Sec 3) -1983
(Superseding IS: 352-1973 and IS : 8264-1976)

Indian Standard
SPECIFICATION FOR
INSULATING VARNISHES CONTAINING
SOLVENTS

PART 3 SPECIFICATIONS FOR INDIVIDUAL
MATERIALS

Section 3 Air Drying Varnishes with Temperature
index 130

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Indian Standard
SPECIFICATION FOR
INSULATING VARNISHES CONTAINING
SOLVENTS

**PART 3 SPECIFICATIONS FOR INDIVIDUAL
MATERIALS**

**Section 3 Air Drying Varnishes with Temperature
Index 130**

0. FOREWORD

0.1 This Indian Standard (Part 3/Sec 3) was adopted by the Indian Standards Institution on 24 March 1983, after the draft finalized by the Solid Electrical Insulating Materials Sectional Committee had been approved by the Electrotechnical Division Council.

0.2 This standard deals with insulating varnishes containing solvents. It consists of the following three parts:

Part 1 Definitions and general requirements,

Part 2 Methods of tests, and

Part 3 Specifications for individual materials.

0.3 This standard covers requirements for air drying varnishes with temperature index 130.

0.4 This standard should be read in conjunction with IS: 10026 (Part 1)-1981 * and IS : 10026 (Part 2)-1982*.

0.5 This standard specifies optional requirements for density, flash point, dilution ability and reaction of varnish with copper, which shall be carried out if agreed to between the purchaser and the supplier and shall be within the limits when compared with declared values applying the tolerances given in Table 1.

*Specification for insulating varnishes containing solvents:

Part 1 Definitions and general requirements.

Part 2 Methods of tests.

IS : 10026 (Part 3 Sec 3) - 1983

0.6 This standard supersedes IS: 352-1973* and IS: 8264-1976†.

0.7 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS: 2-1960‡. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part 3/Sec 3) covers the requirements for insulating varnishes containing solvents which dry and/or cure without the application of heat and are of temperature index 130. Insulating varnishes specially designed for resistance to tracking as well as for resistance to mould growth are also covered in this standard.

2. GENERAL REQUIREMENTS

2.1 All materials in a consignment shall comply with the requirements given in IS: 10026 (Part I)-1981§ for colour, condition of supply, and shelf life.

3. PERFORMANCE REQUIREMENTS

3.1 When tested according to the relevant methods described in IS: 10026 (Part 2)-1982§, the material shall conform to the requirements given in Table I.

•Specification for air-drying insulating varnishes for electrical purposes (*first revision*).

†Specification for air-drying and anti-tracking insulating varnishes for electrical purposes.

‡Rules for rounding off numerical values (*revised*).

§Specification for insulating varnishes containing solvents:

Part 1 Definitions and general requirements.

Part 2 Methods of tests.

IS : 10026 (Part 3/Sec 3) - 1983

TABLE 1 SCHEDULE OF CHARACTERISTICS
(*Clauses 0.5 and 3.1*)

SL No.	PROPERTY	CLAUSE or TEST METHOD	REQUIREMENT	REMARKS
(1)	(2)	(3)	(4)	(5)
i)	Density*	3 of IS : 10026 (Part 2)-1982‡	±0.05 of the nominal value	Nominal value to be agreed between the purchaser and the supplier
ii)	Viscosity†	4 of IS : 10026 (Part 2)-1982‡	±15 percent of the nominal value	Nominal value to be agreed between the purchaser and the supplier
iii)	Non-volatile matter, <i>Min</i> †	5 of IS : 10026 (Part 2)-1982‡	±2 percent of the nominal value	Nominal value to be agreed between the purchaser and the supplier
iv)	Drying in thin film †	6 of IS : 10026 (Part 2)-1982‡	Non-tacky in not more than 4 hours	See Note
v)	Flash point, <i>Min</i> *	7 of IS : 10026 (Part 2)-1982‡	23°C	—
vi)	Dilution ability or compatibility, percent, <i>Min</i> *	8 of IS : 10026 (Part 2)-1982‡	100	—
vii)	Reaction of varniih with copper*	11 of IS : 10026 (Part 2)-1982‡	The copper shall not change colour	—
viii)	Flexibility (mandrel test) †	14 of IS : 10026 (Part 2)-1982‡	No cracking of varnish film, detectable by normal vision	—
ix)	Resistance to transformer oil	15 of IS : 10026 (Part 2)-1982‡	—	—
	a) Visual examination		No evidence of attack	—
	b) Total acidity, mg KOH/g, <i>Max</i>		0.40	—

NOTE — Temperature for drying shall not exceed 35°C.

*Optional requirements shall be carried out if agreed to between the purchaser and the supplier.

† Shall be carried out as routine test.

‡Specification for insulating varnishes containing solvents: Part 2 Methods of tests.

(Continued)

IS : 10026 (Part 3/Sec 3) - 1983

TABLE 1 SCHEDULE OF CHARACTERISTICS — *Contd*

SL No.	PROPERTY	CLAUSE or TEST METHOD	REQUIREMENT	REMARKS
(1)	(2)	(3)	(4)	(5)
	c) Sludge value per-cent by mass, <i>Max</i>		0.10	—
x)	Electric strength, kV/mm, <i>Min</i>	17 of IS : 10026 (Part 2)-1982†		—
	a) In air, at room temperature*		50	—
	b) In air, at 130°C		35	—
	c) After immersion in water*		35	—
	d) In liquid chemicals		To be agreed to between the purchaser and the supplier	The type of chemical and its concentration to be agreed upon between the purchaser and the supplier
xi)	Resistance to tracking, <i>Min</i>	18 of IS : 10026 (Part 2)-1982†	50 drops	See Note 1
xii)	Volume resistivity, ohm. cm, <i>Min</i> *	19 of IS : 10026 (Part 2)-1982†		
	a) In air		1×10^{12}	
	b) After immersion in water		$1 \times 10^{***}$	After seven days of immersion
xiii)	Thermal endurance	22 of IS : 10026 (Part 2)-1982†	Temperature index not less than 130	a) Reduction in electric strength to 12 kV/mm b) Loss of mass up to 30 percent
xiv)	Resistance to mould growth	Appendix G of IS : 6127-1971‡	To pass the test	See Note 2

NOTE 1 — Applicable for varnishes specially designed for resistance to tracking.

NOTE 2 — Applicable for varnishes specially designed for resistance to mould growth.

•Shall be carried out as routine test.

† Specification for insulating varnishes containing solvents: Part 2 Methods of tests.

‡ Specification for varnish, spar and fungicidal.

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELH 1110002

Telephones: 323 0131, 323 3375, 323 9402

Fax: 91 11 3234062, 91 11 3239399, 91 11 3239382

Telegrams: Manaksanstha
(Common to all Offices)

Central Laboratory:

Plot No. 20/9, Site IV, Sahibabad Industrial Area, Sahibabad 201010

Telephone

8-77 00 32

Regional Offices:

Central: Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELH 110002 323 75 17

*Eastern : 1/14 CIT Scheme VII M, V.I.P. Road, Manikotls, CALCUTTA 700054 337 86 62

Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160022 60 38 43

Southern: C.I.T Campus, IV Cross Road, CHENNAI 600113 235 23 15

†Western : Manakalaya, E9, Behind Marol Telephone Exchange, Andheri (East),
MUMBAI 400093 832 92 95

Branch Offices:

*Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMEDABAD 380001 55013 48

‡Peenya Industrial Area, 1st Stage, Bangalore-Tumkur Road,
BANGALORE 560058 639 49 55

Gangotri Complex, 5th Floor, Bhadbhada Road, T.T. Nagar, BHOPAL 462003 55 40 21

Plot No. 62-63, Unit VI, Gangs Nagar, BHUBANESHWAR 751001 40 36 27

Kalaikathir Buildings, 670 Avinashi Road, COIMBATORE 641037 21 01 41

Plot No. 43, Sector 16-A, Mathura Road, FARIDABAD 121001 8-28 88 01

Savitri Complex, 116 G.T. Road, GHAZIABAD 201001 8-71 19 96

53/5 Ward No.29, R.G. Barua Road, 5th By-lane, GUWAHATI 781003 54 11 37

5-8-56C, L.N. Gupta Marg, Nampally Station Road, HYDERABAD 500001 2010 83

E-52, Chitaranjan Marg, C- Scheme, JAIPUR 302001 37 29 25

117/418 B, Sarvodaya Nagar, KANPUR 208005 21 68 76

Seth Bhawan, 2nd Floor, Behind Leela Cinema, Naval Kishore Road,
LUCKNOW 226001 23 89 23

NIT Building, Second Floor, Gokulpat Market, NAGPUR 440010 52 51 71

Patliputra Industrial Estate, PATNA 800013 26 23 05

Institution of Engineers (India) Building 1332 Shivaji Nagar, PUNE 411005 32 36 35

T.C. No. 14/1421, University P. O. Palayam, THIRUVANANTHAPURAM 695034 6 21 17

*Sales Office is at 5 Chowringhee Approach, P.O. Princep Street,
CALCUTTA 700072 27 10 85

†Sales Office is at Novelty Chambers, Grant Road, MUMBAI 400007 309 65 28

‡Sales Office is at 'F' Block, Unity Building, Narashimaraja Square,
BANGALORE 560002 222 39 71

Reprography Unit, BIS, New Delhi, India